

添付資料 2

予備調査ミニッツ

(2008年6月5日)



**MINUTES OF DISCUSSIONS**  
**ON**  
**THE PRELIMINARY STUDY**  
**ON**  
**THE PROJECT FOR WATER SUPPLY DEVELOPMENT**  
**IN ITAY EL-BARUD MARKAZ, BEHEIRA GOVERNORATE**  
**IN THE ARAB REPUBLIC OF EGYPT**

In response to a request from the Government of Arab Republic of Egypt (hereinafter referred to as "Egypt"), the Government of Japan decided to conduct a Preliminary Study on the Project for Water Supply Development in Itay El-Barud Markaz, Beheira Governorate (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Egypt the Preliminary Study Team (hereinafter referred to as "the Team"), which is headed by Shigeru OKAMOTO, Executive Advisor to the Director General, Grant Aid and Loan Support Department, JICA, and is scheduled to stay in the country from May 27 to June 26, 2008.

The Team held discussions with the officials concerned of the Government of Egypt and conducted a field survey at the study area.

As a result of discussions and field survey, both sides confirmed the main items described in the attached sheets.

Subject to the decision by the Government of Japan, JICA will conduct a Basic Design Study on the Project.

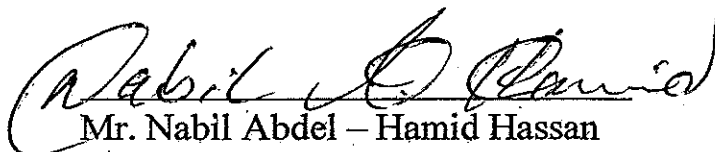
Cairo, June 5, 2008



Mr. Shigeru OKAMOTO  
Leader  
Preliminary Study Team  
Japan International Cooperation Agency (JICA)



Eng. Hasan Khaled Fadel  
Chairman  
National Organization for Potable Water and  
Sanitary Drainage (NOPWASD)  
The Arab Republic of Egypt



Mr. Nabil Abdel-Hamid Hassan  
1<sup>st</sup> Undersecretary of State,  
Head of the Cooperation Sector with Asian  
Countries, Australia and New Zealand  
Ministry of International Cooperation  
The Arab Republic of Egypt

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to improve the public hygiene condition of people of Itay El-Barud Markaz, Beheira Governorate by construction of a new water treatment plant.

### 2. Project site

The site of the proposed water treatment plant is located in Itay El-Barud Markaz, Beheira Governorate as shown in Annex-I.

### 3. Responsible and Implementing Agency, Operating and Maintenance (O&M) Agency

3-1) The Responsible Agency is the Ministry of Housing, Utilities and Urban Communities.

3-2) The Implementing Agency is National Organization for Potable Water and Sanitary Drainage (NOPWASD).

The roles of the Implementing Agency are as follows.

- (a) Coordination of the Project between the Japanese side and the Egyptian side
- (b) Providing technical information for the Project to the Japanese side related to design of facilities
- (c) In cooperation with Beheira Water and Drainage Company (BWADC), design and construction for water supply facilities other than the items to be provided by the Japanese side

The organization chart of NOPWASD is described in Annex- II (1/2).

3-3) The Operating and Maintenance Agency is BWADC under Holding Company for Water and Wastewater.

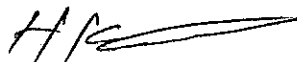
The roles of the Operating and Maintenance Agency are as follows.

- (a) Providing technical information for the Project to the Japanese side related to operation and maintenance of the facilities and the management of Water Supply Services
- (b) Operation and maintenance for the facilities constructed under the Project

The organization chart of BWADC is described in Annex- II (2/2).

### 4. Items requested by the Government of Egypt

As the result of discussions, the items described in Annex-III were requested by the Egyptian side. JICA will assess the appropriateness of the request and will report the findings to the Government of Japan.



## 5. Japan's Grant Aid Scheme

- 5-1) The Egyptian side understood the Japan's Grant Aid Scheme explained by the Team, as described in Annex-IV.
- 5-2) The Egyptian side will take the necessary measures, as described in Annex-V, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.
- 5-3) Japanese side will report Egyptian side if there are any other undertakings based on the result of this study.

## 6. Schedule of the Study

- 6-1) Consultant members of the Team will make additional in-depth studies related to the Project in Egypt until June 26, 2008.
- 6-2) As a result of the Preliminary Study, if the Project is found feasible by the Government of Japan, JICA will send the Basic Design Study Team.
- 6-3) The Team explained that implementation of Preliminary Study and Basic Design Study is not a commitment of the Project itself.

## 7. Other relevant issues

### 7-1) Utilization of the existing wells

The existing wells of which raw water is evaluated meeting the Egyptian drinking water standards shall be used.

### 7-2) Fe/Mn Removal Equipment (Beheira underground removal of manganese system : Burman System)

BWADC explained that it considered the Burman system as costly, requiring high skills, causing environmental risks, and a tentative measure, accordingly it was considering gradual closure of the system.

### 7-3) Capacity of the proposed water treatment plant

Water demand of Itay El-Barud Markaz in the target year 2017 will be examined in the Basic Design stage, however, average daily demand is tentatively estimated at approximately 73,000 m<sup>3</sup>/day.

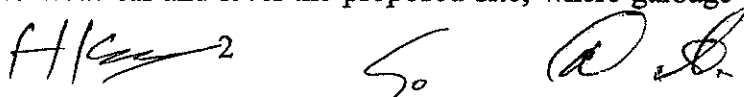
The Egyptian side explained that if the Project provides 52,000 m<sup>3</sup>/day, they will construct an additional capacity which covers the rest of the demand.

### 7-4) Land acquisition

The Egyptian side explained that the proposed site was already secured for the Project as the Beheira Governorate approved use of the site to NOPWASD.

### 7-5) Clearing and leveling the proposed site

The Egyptian side agreed to clear off and level the proposed site, where garbage piling was



observed.

7-6) Construction and rehabilitation of transmission mains and distribution networks

The Basic Design Study will include hydraulic analysis of the trunk distribution networks served by the proposed treatment plant.

The Egyptian side explained that on the basis of the study above, they should construct and/or rehabilitate transmission mains including canal and railway crossing works and networks necessary for distribution of production by the proposed water treatment plant by their own budget in a timely manner to synchronize the completion of the Project.

7-7) Water right (raw water abstraction) from Khandak El Sharkia Canal

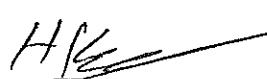
The Egyptian side stated that they will obtain the approval of raw water abstraction of 90,000 m<sup>3</sup>/day for the proposed water treatment plant from the Ministry of Water Resources and Irrigation, and assured to hand over a copy of the evidence to JICA Egypt office.

7-8) Environmental Impact Assessment (EIA)

The Egyptian side explained and assured that according to the current environment law of Egypt, the Project is not subject to IEE/EIA, and would hand over a copy of the evidence to the Team.

7-9) Soft Components

BWADC requested the technical training by Japanese engineers as to operation and maintenance of the proposed water treatment plant.



# Proposed WTP Site

— Site Boundary

Approx 4.45ha

Itay El Barud City

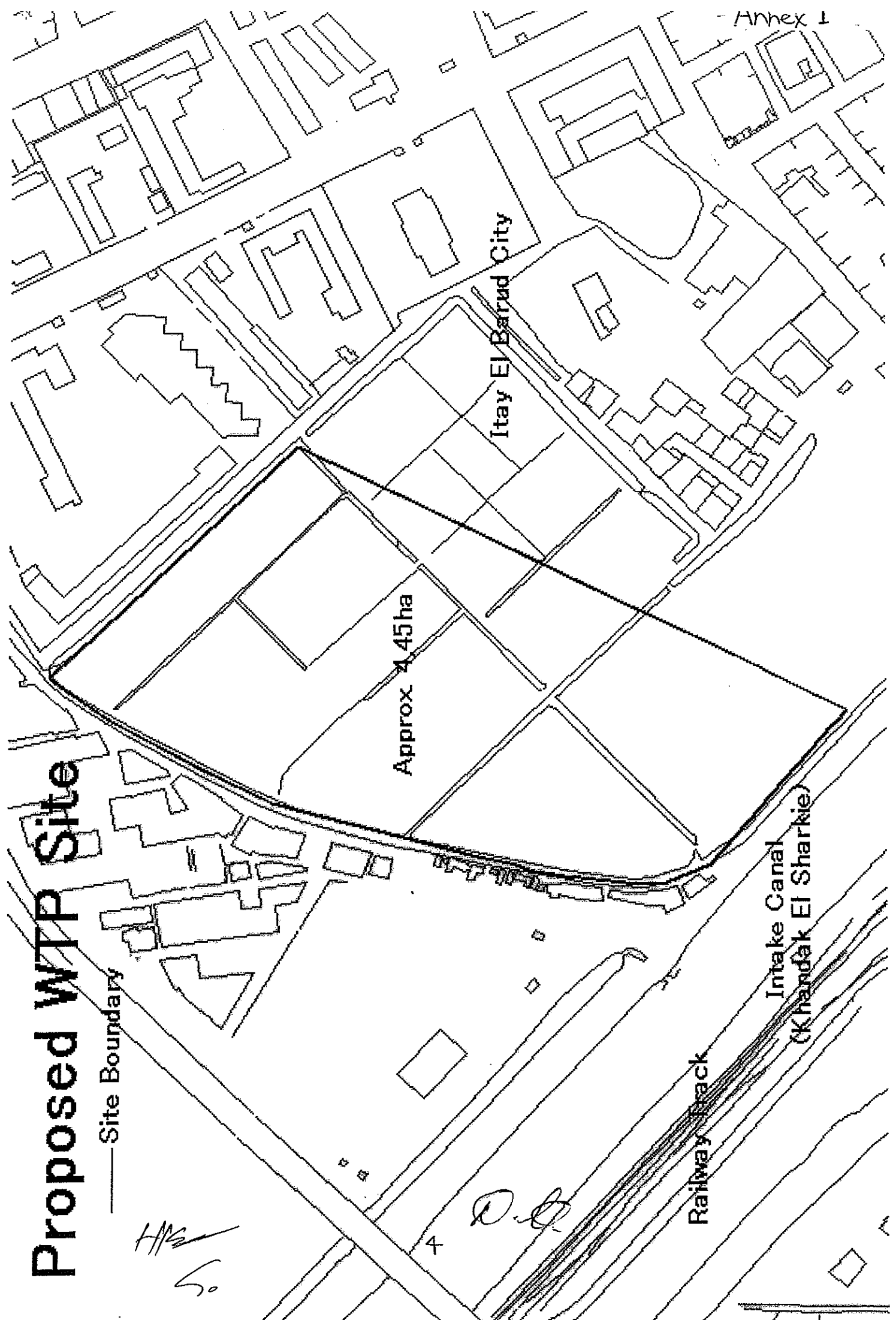
Railway Track

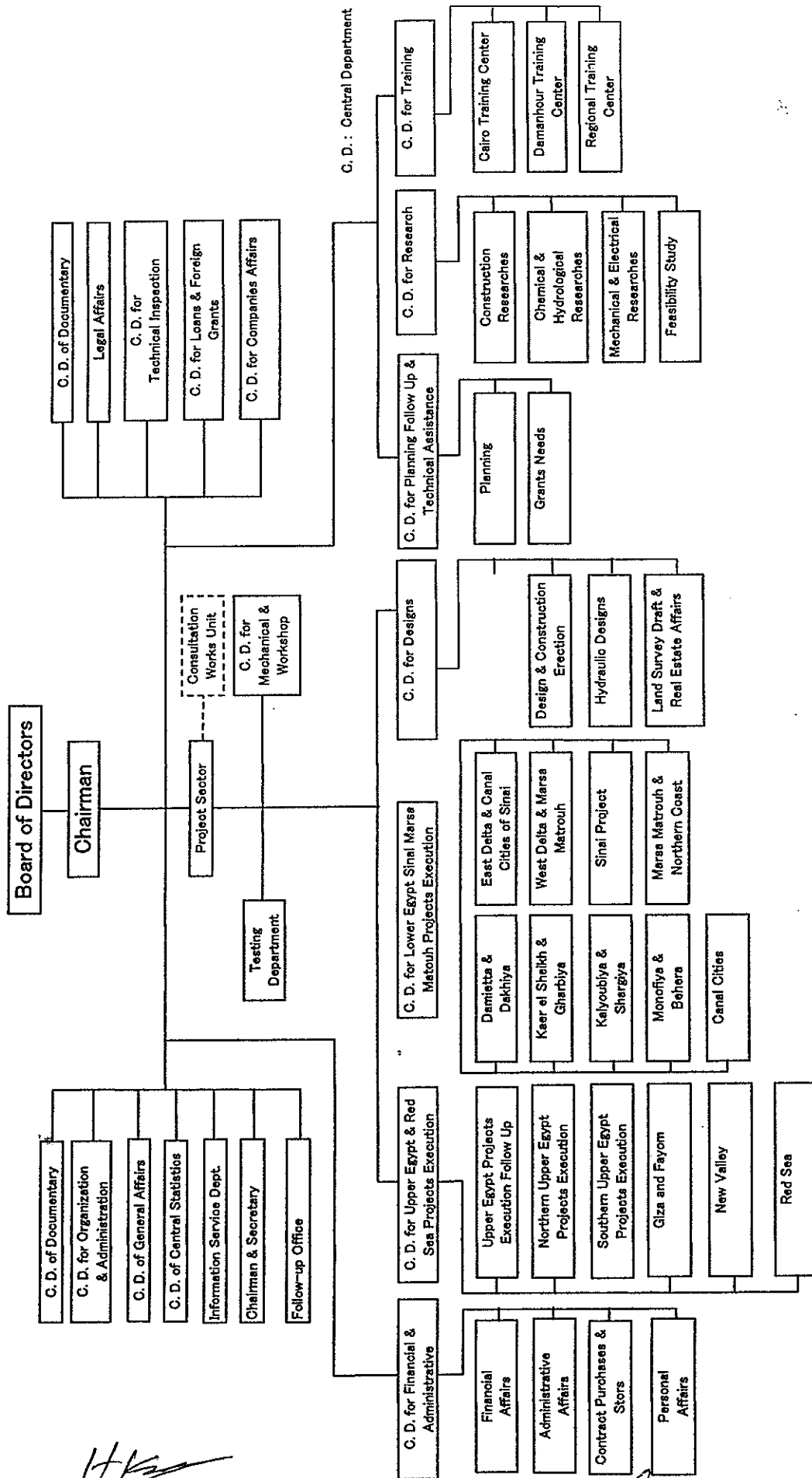
Intake Canal  
(Khandak El Sharkie)

Annex 1

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57

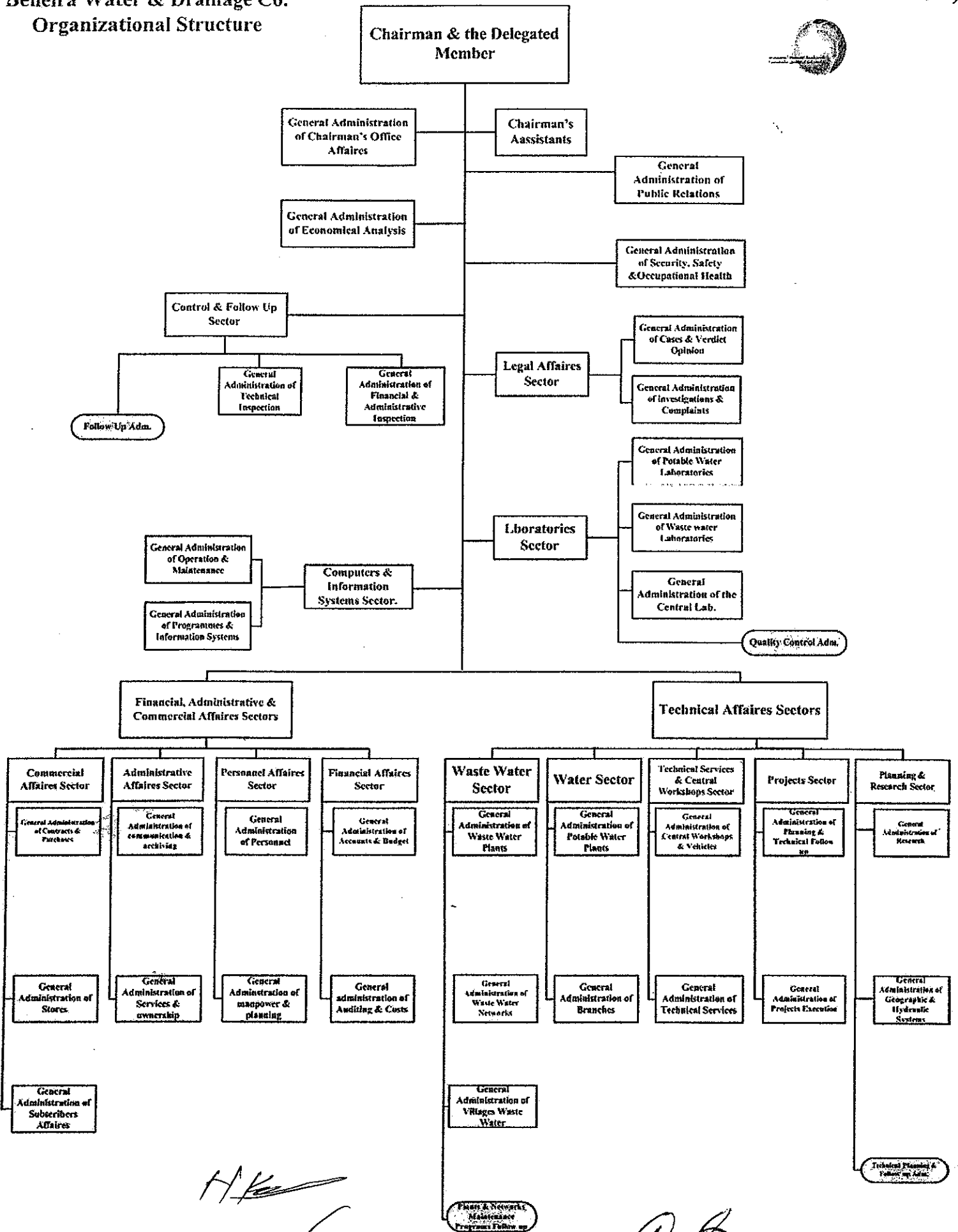
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Organization Chart of NOPWASD



Beheira Water & Drainage Co.  
Organizational Structure

Annex II (2/2)



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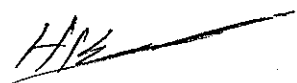


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**ANNEX-III: Items requested by the Egyptian side**

Construction of new water treatment plant

It includes the followings.

- (a) Water intake facilities (including fine screens)
- (b) Raw water pumps
- (c) Water treatment facilities (Receiving well, Flush mixer, Flocculation basin, Sedimentation basin, Rapid sand filter and chemical dosing facilities)
- (d) Sludge treatment facilities
- (e) Treated water reservoirs
- (f) Water distribution pumps
- (g) Laboratory equipment
- (h) Operation control facility
- (i) Power receiving and transforming facilities
- (j) Emergency generator
- (k) Building works (Chemical building and Control/Monitoring Building)
- (l) Yard piping

## ANNEX-IV: The Japan's Grant Aid Scheme (Until September 2008)

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

### (1) Grant Aid Procedure

Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Mission to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

### (2) Basic Design Study

#### 1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.



The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

## 2) Selection of Consultants

For smooth implementation of the Study, JICA uses a registered consulting firm selected through its own procedure (competitive proposal). The selected firm participates in the Study and prepares for a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country in order to maintain the technical consistency.

## (3) Japan's Grant Aid Scheme

### 1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

### 2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for.

Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

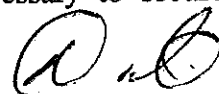
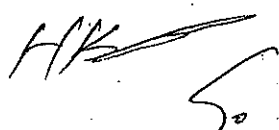
### 3) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

### 4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.



5) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- a) to secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites;
- c) to ensure all expenses and prompt execution for unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

6) "Proper Use"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

8) Banking Arrangement (B/A)

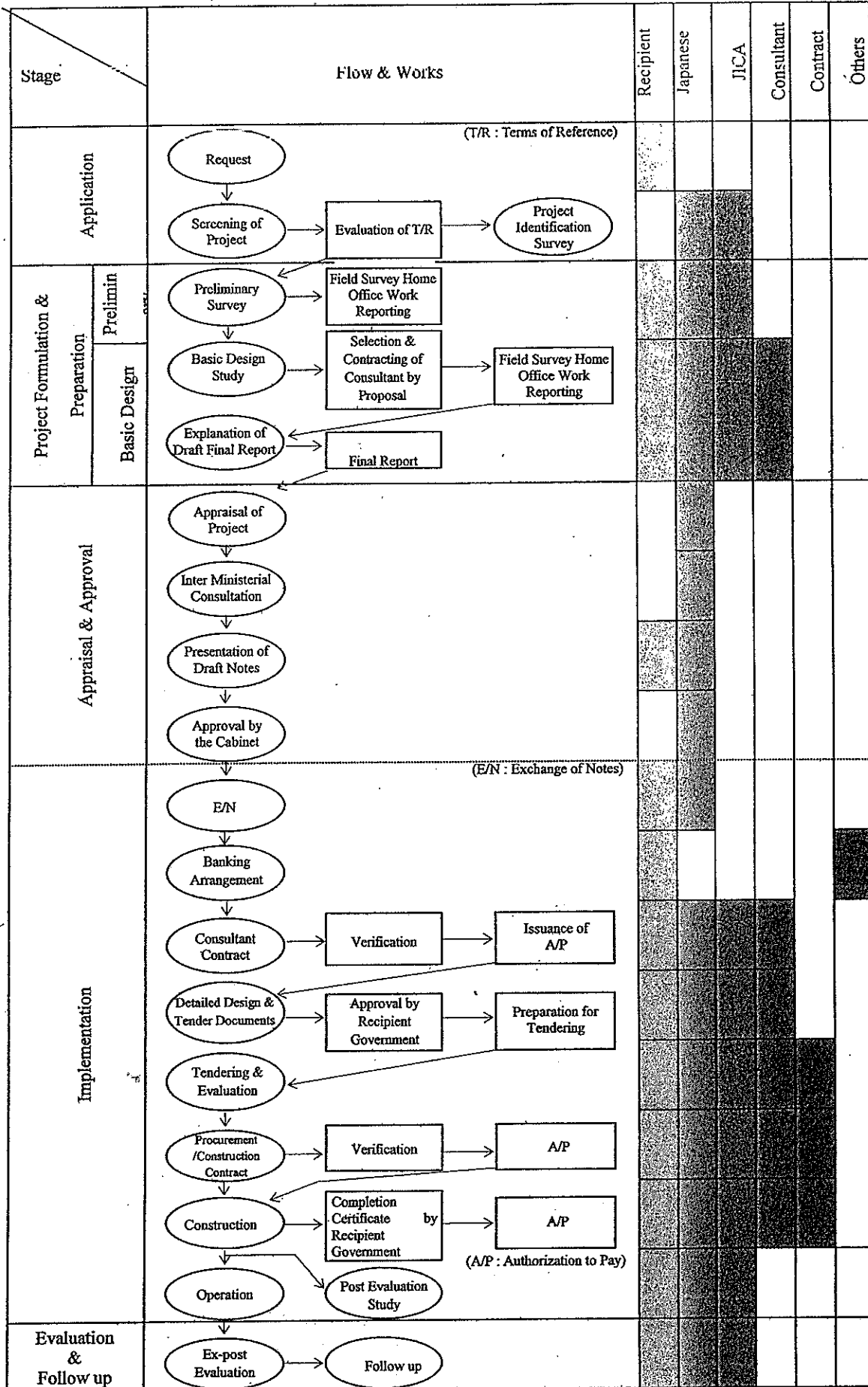
- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

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## FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



HAC

P.O.

**Annex-V Major Undertakings to be taken by Each Government**

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To Clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot		●
5	To construct roads		
	1) Within the site		●
	2) Outside the site		●
6	To construct the buildings	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone system		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. Office furniture		●
	b. Project Equipment	●	
8	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from port of disembarkation to the project site	●	
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract.		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
13	To bear all the expenses , other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

B/A:Banking Arrangement

A/P:Authorization to Pay





添付資料 3

予備調査ミニッツ締結後の文書

3 - 1

調査団長発 NOPWASD 宛照会文書（その1）

（2008年7月16日付）





July 16, 2008

Eng. Hasan Khaled Fadel  
Chairman  
National Organization for Potable Water  
and Sanitary Drainage (NOPWASD)  
The Arab Republic of Egypt

Dear Sir,

With reference to the Project for Water Supply Development in Itay El-Barud Markaz, Beheira Governorate, and the Minutes of Discussions on the Preliminary Study on the Project signed on June 5, 2008 between your esteemed Authority and JICA team, I would like to express my sincere gratitude to you and the staff of NOPWASD for sharing precious time and having intensive meeting to materialize the Project during my stay in Egypt.

The consultant members remained in Egypt after that and continued their further work to collect detailed information and data to complete the Preliminary Study. As a part of their reports, we were informed that the "Master Plan for Water and Wastewater in Beheira Governorate" is being prepared by an Egyptian consultant firm employed by the Holding Company of Water and Wastewater with EU funding, as well as two water treatment plants (compact unit) with the capacity of 300 liters/sec respectively are under construction in Itay El-Barud to meet urgent needs of potable water of the area.

One of the important objectives of the Preliminary Study is to confirm justification of the needs and capacity of the proposed plant which was requested to be financed by Japan's Grant Aid, however, the team can not conclude to recommend proceeding to the next step of this Project as the Basic Design Study stage unless several items are clarified as follows:

1) As far as we were informed, the requested water treatment plant is not placed in the Master Plan being prepared by the Holding Company of Water and Wastewater (Summary of the study report is attached to this letter), on the other hand, two compact units under construction in Itay El-Barud are positioned in the Plan aiming at the year 2037. How would you justify the requested plant?

2) With reference to planning future plan of water supply facilities in Beheira Governorate and implementing each project, what are the role of NOPWASD, Holding Company of Water and Wastewater (HCWW) and Beheira Water and Drainage Company (BWADC)? We were informed that the "Master Plan for Water and Wastewater in Beheira Governorate" is being prepared by HCWW, and the "Urgent Plan" to construct compact units are implemented by HCWW with the budget allocated from NOPWASD.

3) Two compact units are being constructed just upstream of the requested site in the same canal. How do you find the impact of sludge and wash-waste from filters to be discharged into the canal, from which the requested plant abstract raw water?

It is regrettable to state that essential information such as the master plan study and the construction work of compact units were not mentioned during our meeting or in the meetings with BWADC.

In order to finalize the Preliminary Study and proceed to the next stage of this project, I would like to ask you to clarify the items mentioned above after due consultation with HCWW and BWADC, which could be delivered through JICA Egypt Office.

Your prompt response is highly appreciated.

Yours respectfully,



Shigeru OKAMOTO

Leader

Preliminary Study Team

Japan International Cooperation Agency

- c. c. Mr. Nabil Abdel – Hamid Hassan  
1<sup>st</sup> Undersecretary of State  
Head of the Cooperation Sector with Asian Countries, Australia and New Zealand  
Ministry of International Cooperation
- c. c. Eng. ElSayed Saad Abdalla  
Vice Chairman  
NOPWASD
- c. c. Mr. Katsuhiko OZAWA  
Resident Representative  
JICA Egypt Office

Attachment : "Master Plan for Water and Wastewater in Beheira Governorate"

添付資料 3

予備調査ミニッツ締結後の文書

3 - 2

NOPWASD からの回答文書（その1）

（2008年8月3日付）



**National Organization for Potable  
Water & Sanitary Drainage ( N.O.P.W.A.S.D. )**

Chairman

Japan International Cooperation Agency

Mr. shigeru OKAMOTO

Leader , preliminary study Team

Subject: Project for water supply Development in Itay EL- Barud Markaz,  
Beheira Governorate

Dear sir,

Referring to your letter dated July 16 , 2008 concerning Itay EL- Barud water treatment plant , we would like to reply as follows :-

1. The master plan has been prepared by BWADC through a grant from EU to the Holding company, further more, that master plan is still Draft. In the mean time, the previous study submitted by the company stated that the required capacity at 2025 will be 1200L/sec.
2. Both NOPWASD & HCWW are affiliated to the MOHUUD, BWADC is an affiliate to HCWW. Both BWADC & HCWW are responsible for water distribution, O & M for water & waste water utilities. But NOPWASD is responsible for planning & implementation of new water & waste water Schemes, the urgent plan has been a result of the water & wastewater service shortage that has been clear to the public in the last two years. As operator, the HCWW requested to implement the critical part of the urgent plan that affects the public directly, which included the two compact ( temporary ) units. NOPWASD is going to cover the rest of the plan and all these projects are funded through MOHUUD.
3. we have informed the mission during the site visit that the sludge and wash water of the compact units, will not be discharged to the canal. To our surprise, the mission claimed that they haven't been informed with the compact units although they have been told by both NOPWASD and BWADC about them, specially that NOPWASD informed the mission that after implementation of the JICA funded plant ( 600 l/sec ) there shall still be a shortage of water which might be covered partially by these temporary compact units.

Waiting for the next step by JICA with much interest.

Best regards,

Truly Yours,

  
Eng. Hassan Khaled Fadel

Chairman of NOPWASD





添付資料 3

予備調査ミニッツ締結後の文書

3 - 3

調査団長発 NOPWASD 宛照会文書（その2）

（2008年9月12日付）



September 12, 2008

Eng. Hasan Khaled Fadel  
Chairman  
National Organization for Potable Water  
and Sanitary Drainage (NOPWASD)  
The Arab Republic of Egypt

Dear Sir,

We would like to appreciate your reply letter dated August 3, 2008 concerning the Project for Water Supply Development in Itay El-Barud Markaz, Beheira Governorate, and express our view on this Project.

The consultant members of our team got the information of the "Master Plan for Water and Wastewater in Beheira Governorate" as well as two treatment plants(compact unit) with the capacity of 300 liters/sec each during their study after confirmation of the Minutes of Discussions on the Preliminary Study on the Project signed on June 5, 2008, and official member left Egypt. Accordingly the item 7-3) of the M/D referring the capacity of the proposed water treatment plant was worked out without considering the capacity of two compact units.

In your letter, you regarded those units as a temporary measure. However, we think it is necessary to consider a water distribution plan and facility design with a future usage of two compact units in mind, in conformity with the Master Plan. Therefore appropriate capacity of the proposed water treatment plant shall be reviewed and examined in the next stage as the Basic Design Study.

We would like to conclude the Preliminary Study asking your understanding on this matter, then report the result to the Government of Japan. Subject to the decision by the Government of Japan, JICA will conduct a Basic Design Study on the Project.

Your prompt reply is highly appreciated.

Yours respectfully,



Shigeru OKAMOTO

Leader

Preliminary Study Team

Japan International Cooperation Agency



For a better tomorrow for all.

Japan International Cooperation Agency

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- c. c. Mr. Nabil Abdel – Hamid Hassan  
1<sup>st</sup> Undersecretary of State  
Head of the Cooperation Sector with Asian Countries, Australia and New Zealand  
Ministry of International Cooperation
  
- c. c. Eng. ElSayed Saad Abdalla  
Vice Chairman  
NOPWASD
  
- c. c. Mr. Katsuhiko OZAWA  
Resident Representative  
JICA Egypt Office

添付資料 3

予備調査ミニッツ締結後の文書

3 - 4

NOPWASD からの回答文書（その2）

（2008年10月14日付）



MINISTRY OF HOUSING, UTILITIES &amp; URBAN COMMUNITIES

**National Organization for Potable  
Water & Sanitary Drainage ( N.O.P.W.A.S.D. )**

Chairman

**To: Mr. TETSUO TAKAHASHI**

Assistant Resident representative

JAPAN International Cooperation Agency

Egypt office – World Trade Centre – 8th floor

1191 corniche EL Nil st ., Boulak , cairo

**Subject : Project for water supply development**

In Itay EL – Barud Markaz ,

Behaira Governorate

**Dear sir,**

Referring to the meeting held with NOPWASD VICE CHAIRMAN on Tuesday 16<sup>th</sup> of SEPTEMBER , and to the letter of Mr. shigeru OKAMOTO , leader of preliminary study Team of JICA , dated September 12, 2008 concerning the capacity of the above mentioned project .

We would like to confirm our understanding and acceptance to JICA'S conclusion of review and examining the appropriate capacity of the proposed potable water treatment plant in ITAY EL-BARUD in the next stage as the Basic Design study taking into consideration a future usage of the two compact Units, provided that the Japanese consultant will submit a complete lay out for plant capacity of 1200/sec in order to enable us to implement the remaining capacity which will not be implemented through the Japanese financing .

**Best regards ,****Truly Yours,****Eng . El Sayed Saad Abdallah****Vice Chairm of NOPWASD**





添付資料 4

主要面談者リスト



面談者リスト

関係機関	氏名
<b>National Organization for Potable Water and Sanitary Drainage (NOPWASD) / 全国上下水道庁</b>	
Chairman	Mr. Hassan Khaled Fadel
Vice Chairman	Mr. ElSayed Saad Abdalla
Director General for Electromechanical Research Department	Mr. Ahmed Hosameldin Kotab
Hydraulic Design Department	Mr. Mahmoud Mohamed Mokhtar
	Mr. Sayed Ahmed Hassan
<b>Ministry of International Coordination (MOIC) / 国際協力省</b>	
Head of Coordination Sector with Asian Countries, Australia & New Zealand	Mr. Nabil Abdel-Hamid Sassan
<b>Beheira Governorate / ベヘイラ県庁</b>	
Governor	Mr. Mohamod SHarawy
<b>NOPWASD in Beheira Governorate / 全国上下水道庁ベヘイラ事務所</b>	
Head of Executive Dept. of Beherira & Monofia Governorate	Mr. Rommel Nessim Saad
Site Engineer in Beheira Governorate	Mr. Ali Nassar
<b>Beheira Water and Drainage Company (BWADC) / ベヘイラ上下水道公社</b>	
Charman	Mr. Mahmoud Mansour
Technical Advisor	Mr. Ebraheam Khaled
Vice Chairman for Research, Planning & Development Sector	Mr. Safwat Rageh
General Manager of Research, Planning & Development Sector	Mr. Mohamed Abdelgalil
Head of Surface Water Research Directorate	Mr. Mohamed Ghonaim
Head of Groundwater Research Directorate	Mr. Essam Ismail Zaki
Head of Laboratory Sector	Mr. Hassan Gaber
<b>Embassy of Japan / 在エジプト日本国大使館</b>	
一等書記官	石原 洋
<b>JICA Egypt Office / JICAエジプト事務所</b>	
所長	小澤 勝彦
次長	小森 正勝
所員	庄司 いずみ
所員	高橋 哲雄
ローカル所員	Mr. Nour El-Din Hussein



添付資料 5

協議メモ（役務提供団員補足調査分）



日時	2008年6月7日(土) 10:30～15:00
場所	技術協力プロジェクトサイト、Improvement of Management Capacity of operation and Maintenance for SHAPWASCO), Sharkiya
目的	既存の浄水施設の取り組みから、教訓等を入手し、要請案件に反映させる。
出席者	Mr. Mohamed Nagi, Project Facilitator 他 調査団:土井弘行

議事概要

1. ナイル川の状況

- ・ エジプトで Rainy season と言われるのは1月～2月。ただし降水量は少ない。
- ・ ナイル川の水位は1月が最も低下する。この時期は灌漑用の取水はできず、飲料用水のみの取水となる。
- ・ 1月中旬から2月中旬にかけては、幸いにも農業用水がいない時期である。
- ・ 2月中旬以降3月までは灌漑用水の必要量が増してくるため、運河の流量も増加する。この期間の濁度は増加する。その理由は、運河の浚渫作業が行われ時期であること、気温が高く藻類の繁殖が盛んになる時期であることがあげられる。

2. 環境上の問題点

- ・ 運河へ農業排水や産業排水を流すのは法律で禁止されているため、運河からの原水取水については特に問題はない。
- ・ ただし、ゴミの運河への不法投棄が大きな問題である。特に、プラスチック類の投棄。
- ・ これらを防止するためには、環境教育や環境学習が重要だと考え、児童生徒を対象とした啓発のための見学会をこれまでの6回程度開催した。
- ・ また、水資源は限られているという認識のもと、節水を呼びかけるポスターを作っている。これらは学校に掲示する。

3. Dried sludge の取り扱い

- ・ Dried sludge 量は月に 350 m<sup>3</sup>程度になる。
- ・ Dried sludge は廃棄物処分場へ運搬することとしているが、Municipality 側に Dried sludge を運ぶための車がないため、現在は浄水場用地内に仮置きしている状況にある。
- ・ 仮置きしてある Dried sludge のうち、25%程度は市民等が埋め立て用土として購入していく。
- ・ 現在、Dried sludge を農地に肥料として還元する方法を関係省庁やコンサルタントが検討中。(Dried sludge にはアルミニウムが含まれており、農地に還元した場合の安全性がまだ確かめられていない状況にある)。

日時	2008年6月10日(火) 12:00～12:45
場所	イタイ・エルバーロード市役所
目的	表敬訪問、及び浄水場建設計画に対する意見の把握
出席者	Mr. Abd El Hamed El Shahat, Mayor 調査団:土井弘行

議事概要

1. 浄水場建設計画に対する意見

- ・ 浄水場建設は地域住民の生活の質の向上に資するものであり住民によって歓迎されている。
- ・ 浄水場の建設は地域住民の総意であり、早期の実現を望んでいる。
- ・ 反対運動は無い。

2. イタイ・エルバーロード市について

<ul style="list-style-type: none"> <li>・ イタイ・エルバールード市は緑豊かな街づくりを目指している。市長就任後、5箇所排水路を暗渠化し、その場所に植栽を行ったとのこと。</li> </ul>
<p>3. ゴミの処理について</p> <ul style="list-style-type: none"> <li>・ イタイ・エルバールード郡内には、廃棄物の処分場が無い場合、隣の郡にある処分場に運搬している。</li> <li>・ 1日に運搬する量はトラックで5～6台分程度である。</li> </ul>

日時	2008年6月11日(水) 11:00～13:00
場所	Irrigation Office,
目的	情報の収集
出席者	調査団:土井弘行

<p><u>議事概要</u></p>	
<p>1. Irrigation Office について</p> <ul style="list-style-type: none"> <li>・ エジプトには26の県があり、各県に Irrigation Office が配置されている。</li> <li>・ イタイ・エルバールード郡には支所がある。</li> <li>・ Irrigation Office は灌漑水路とともに雨水排水路の維持管理も行っている。夫々の予算は半々程度。</li> </ul>	
<p>2. 水利用について</p> <ul style="list-style-type: none"> <li>・ 地下水を灌漑用を使用することは禁止されている。</li> <li>・ Law No. 12 に水利権等を含めた規則が書かれている。</li> </ul>	
<p>2. 農村において灌漑用水が最も必要な時期について</p> <ul style="list-style-type: none"> <li>・ 稲作の場合、6月頃から9月頃に最も水が必要となる。</li> <li>・ 稲作に必要な水の量は、1エーカー当たり年間(6月頃から9月頃)、8,000～9,000 m<sup>3</sup>であるとされている。</li> </ul>	
<p>3. 運河の管理について</p> <ul style="list-style-type: none"> <li>・ 昔は車がなかったためロバを使って水路の管理を行っていた。</li> <li>・ アスワンハイダム完成後は、運河に堆積する土砂が減少したため、運河を維持するための浚渫回数は減っている。</li> <li>・ 運河にはプラスチックバックのようなゴミが流れ込むが、これを防止するためにオイルフェンスのようなものを設置し、ゴミを回収している。</li> <li>・ いずれにしても、ゴミは人が投棄するものがほとんどなので住民への啓発活動は重要であると考えている。</li> </ul>	
<p>4. 運河に生息する魚類</p> <ul style="list-style-type: none"> <li>・ 種類、量ともに多い。</li> <li>・ 種類は、ナイル川由来の淡水魚である。</li> <li>・ 運河では釣りを楽しむ住民も多く、釣った魚を食用とする。</li> </ul>	

日時	2008年6月11日(水) 13:30～14:30
場所	Beheira Governorate / ベヘイラ県庁, Planning Office
目的	情報の収集
出席者	Ms. Victorien Philip Hand, Manager of Planning Office



	調査団:土井弘行
<b>議事概要</b>	
1. ベヘイラ県の開発計画 (Development Plan) について	
<ul style="list-style-type: none"> <li>計画はあるものの予算が無いため実施に移せないとのこと。</li> </ul>	
2. ベヘイラ県の疾病の現状	
<ul style="list-style-type: none"> <li>肝炎と腎炎が多いとのこと。</li> </ul>	
3. 気象データ、及び地図の有無	
<ul style="list-style-type: none"> <li>ここには無いためカイロで入手して欲しいとのこと。</li> <li>地図は BWADC で入手して欲しいとのこと。</li> </ul>	

日時	2008年6月12日(木) 10:00~12:00
場所	Factory for Rubbish in Beheira Governorate / 廃棄物中間処理施設
目的	情報の収集
出席者	Mr. Eid Shabaan, Manager 調査団:土井弘行
<b>議事概要</b>	
1. 廃棄物中間処理施設の概要	
<ul style="list-style-type: none"> <li>イタイ・エルバルードから約 22Km、ダマンフルから約 12Km に位置している。</li> <li>開業は 1999 年。敷地面積は 2.5ha。職員は、マネージャー以下、6 名の事務員、33 名の作業員で構成。</li> <li>ベヘイラ県の廃棄物は一旦ここに集められ、ここでは再利用できるものの分別、医療廃棄物の処理等を行い、残渣を最終処分場(ホシイサにある)に運搬するとのこと。なお、ベヘイラ県には同様の施設が合計 3 箇所にあるとのこと。</li> <li>管理運営費用はベヘイラ県が負担している。</li> <li>現在の処理量は、日量約 120 トン。</li> <li>イタイ・エルバルード市からは 15~17 トン/日が運び込まれている。</li> <li>ここでは、堆肥作りも行われている。販売価格は、品質によって異なるが、1 トン当たり 40~70LE(1LE=約 20 円)。</li> </ul>	
2. 農民が堆肥の購入に積極的になっている理由	
<ul style="list-style-type: none"> <li>2008 年の化成肥料価格は、原油価格の高騰により 2007 年に比べ 3 倍程度にまで上昇している。</li> <li>そのため、農民は中間処理施設で生成される安価な有機質肥料を好んで購入するようになっている。</li> </ul>	
3. 浄水場の副産物である汚泥の利用の可能性	
<ul style="list-style-type: none"> <li>汚泥も土壌改良剤として農民が購入する可能性が高いと考える。</li> <li>その理由は、ベヘイラ県には砂漠地帯もあるため、その地域における果樹栽培のための土壌改良剤として利用・活用が可能であると考えからである。</li> <li>この地域の砂漠地帯は、灌漑施設の整備によりレモンやオレンジ栽培が可能となっている。</li> <li>したがって、積極的に汚泥を引き取りたいとのことであった。</li> </ul>	

日時	2008年6月12日(木) 14:10~14:30
場所	Beheira Water and Drainage Company (BWADC)/コールセンター

目的	情報の収集
出席者	コールセンター職員 調査団:土井弘行
<b>議事概要</b> 1. コールセンターの概要 <ul style="list-style-type: none"> <li>ベヘイラ県全域をカバーしている。</li> <li>現在7名のオペレーターが苦情・相談等の受付業務を行っている。</li> <li>電話の受付時間帯は8時から22時まで。来週から24時間体制で受付業務を行う予定。</li> </ul>	

日時	2008年6月14日(土) 10:00~11:00
場所	Beheira Water and Drainage Company (BWADC) / Quality Assurance & Environment Department
目的	情報の収集
出席者	Mr. Yassin Aly Mansour (Eng.), Manager Ms. Inas Yassin (Eng.), Specialist 調査団:土井弘行
<b>議事概要</b> 1. 組織の概要 <ul style="list-style-type: none"> <li>BWADCの職員数は約4,500人である。品質管理システム、環境管理システム等を導入し、ISOについては4種の認証を取得している。</li> <li>Quality Assurance &amp; Environment Departmentは1998年に設立された。</li> <li>同部は、環境調査、環境啓発等を行う環境課(Environment Department)と品質管理を主業務とする品質課(Quality Assurance Department)で構成されている。</li> <li>専門職員数は合計10人である。</li> </ul>	

日時	2008年6月15日(日) 10:00~11:00
場所	Environment Management Unit in Alexandria Governorate / アレキサンドリア県庁環境管理部
目的	情報収集
出席者	Ms. May Mahmoud Ghallab (Eng.), Biochemist of Environment Management Unit Ms. Asmaa Youssed (Eng.), Environmentalist, Head of Inspection Department 調査団:土井弘行
<b>議事概要</b> 1. 環境行政 <ul style="list-style-type: none"> <li>エジプト国の環境組織はカイロに本省である環境庁があり、各地域に環境庁の支所がある(Regional Branch Office)。</li> <li>また、各県には環境を担当する部署がある(Environment Management Unit:EMU)。</li> </ul> 2. エジプト国の環境影響評価制度 <ul style="list-style-type: none"> <li>全ての事業計画は実施の実施前に環境影響評価の手続きを行う必要がある。</li> </ul> 3. 環境影響評価の手続きのながれ <ul style="list-style-type: none"> <li>事業実施者は、プロジェクトの概要を記したものと、及びプロジェクトの実施によって想定される影響を様式に記したものを、プロジェクトが行われる県の環境担当部署(EMU)に提出する。</li> <li>提出された書類に基づき、カテゴリC(影響が重大)、カテゴリB(影響はCとAの間)、カテゴリA(影響は無い)の区分が行われる。</li> <li>カテゴリ区分によって、対応窓口が異なり、カテゴリCとカテゴリBに区分されたプロジェクトは、</li> </ul>	

カイロの環境庁が環境影響評価の審査機関、及び事業許可を与える機関となる。他方、カテゴリ A に区分されたプロジェクトは、各地域の環境庁の支所が事業許可を与える機関となる。

日時	2008年6月16日(月) 11:00~12:00
場所	NOPWASD ベヘイラ事務所
目的	NOPWASD ベヘイラ事務所に、ベヘイラ県の環境管理ユニットの課長を招き、本要請案件が環境影響評価の対象となる事業か否かを確認した。
出席者	Mr. Ahmed Abd Allah El Kady, Manager of EMU, Beheira Governorate Mr. Ahmed Abd Elhem Abd El Kader, Administrator of EMU Mr. Ali Nassar, Site Engineer, NOPWASD in Beheira Governorate 調査団:土井弘行
<p><b>議事概要</b></p> <p>1. ベヘイラ県の環境管理ユニット(Environment Management Unit (EMU))の概要</p> <ul style="list-style-type: none"> <li>• Manager の下、15名の職員がベヘイラ県全体の環境行政を担当している。</li> </ul> <p>2. 本要請案件に係る環境影響評価の必要性</p> <ul style="list-style-type: none"> <li>• エジプト国の環境法には、すべてのプロジェクトは、事業者から EMU に必要書類を提出し、環境影響評価の手続きにしたがって、進める必要があることが明記されている。</li> <li>• このプロジェクトの場合も、手続きの流れにそって、まずは NOPWASD が EMU に書類を提出する必要がある。</li> <li>• その後、本件のカテゴリ分類(C, B, A)がなされ、カテゴリ分類によってその後の手続きが変わってくる。</li> <li>• カテゴリ A の場合は、詳細な EIA が必要となる。</li> <li>• 事業者側が環境影響評価報告書を提出してから審査結果がでるまでは 60 日以内である。</li> <li>• 審査の後、事業実施にクリアランスが与えられる。</li> </ul>	

日時	2008年6月16日(月) 13:00~15:00
場所	Beheira Governorate /ベヘイラ県庁 Information & Decision Making Support Center
目的	ベヘイラ県庁の情報課を訪問し関連情報を収集
出席者	Mr. Mohammed El Komi, Manager Ms. Maha Al Qadi, Interpreter 調査団:土井弘行
<p><b>議事概要</b></p> <p>1. ベヘイラ県のウェブサイト</p> <ul style="list-style-type: none"> <li>• ベヘイラ県の情報課は、インターネットによる県の基本状況提供に取り組んでいる。</li> <li>• ウェブサイトは、<a href="http://www.behera.gov.eg">www.behera.gov.eg</a>。</li> <li>• 上記サイトを開くと、ベヘイラ県の各自治体の基本情報(アラビア語)が得られる。</li> <li>• 英語で書かれているページは、<a href="http://www.behera.gov.eg/english/towns/en_itay_elbarud">www.behera.gov.eg/english/towns/en_itay_elbarud</a>。</li> <li>• ただし、つながりにくいのが欠点。更新ボタンを何回も押せばアクセスできる。</li> <li>• アクセスできない場合は、下記の方法がある。</li> <li>• <u>最初に <a href="http://www.google.com.eg">www.google.com.eg</a> を開く。</u></li> <li>• 次に behera と入力する</li> </ul>	

日時	2008年6月22日(日) 10:00~11:00
場所	Egyptian Environmental Affairs Agency (EEAA) /エジプト環境庁 EIA Department

目的	環境影響評価の必要性の確認
出席者	Mr. Mahmoud Shawky (Eng.), General Manager of Industrial Projects, EIA Department Mr. Ahmed EL-Dorghamy (Eng.), Technical Assistant REMIP 調査団: 土井弘行
<u>議事概要</u>	
<p>1. 環境影響評価の必要性</p> <ul style="list-style-type: none"> <li>環境法の施行規則にも記載されているように、事業実施者である NOPWASD 側は EIA の流れに則って手続きを進めることが必要</li> <li>EIA は事業の実施を中止させたり、遅らせたりするものでは決してない。</li> <li>事業者側と環境行政側が協力して、環境への影響が可能な限り小さい事業の実現を目指すものである。</li> <li>事業者からの書類が提出されないと何ともいえないが、カテゴリは B に相当すると考えているとのこと。</li> </ul>	

日時	2008年6月22日(日) 11:00~11:45
場所	Egyptian Environmental Affairs Agency (EEAA) / エジプト環境庁 Regional Environmental Management Improvement Project / JICA 技術協力プロジェクト
目的	環境関連情報の収集
出席者	井上 憲彦 氏, チーフアドバイザー Mr. Ahmed EL-Dorghamy (Eng.), Technical Assistant REMIP 調査団: 土井弘行
<u>議事概要</u>	
<p>1. エジプト国における環境モニタリング(水質)の担当省庁</p> <ul style="list-style-type: none"> <li>水資源灌漑省がナイル川をはじめ内水域の水質モニタリングを担当。</li> <li>環境庁は、海域、及び工場排水のモニタリングを担当。</li> <li>環境庁は、農薬汚染の現状モニタリングの必要性も認識しているが、未実施である。</li> <li>モニタリング地点は 2004 年版の環境白書(Egypt State of the Environment Report)にある。</li> </ul> <p>2. 提供いただいた資料</p> <ul style="list-style-type: none"> <li>Tanta 地域のナイル川の水質、収集資料 E-15。</li> </ul>	

日時	2008年6月22日(日) 14:30~15:00
場所	DANIDA 事務所
目的	ドナーの援助動向調査他
出席者	Ms. DINA HAMED; プログラムオフィサー 調査団: 野沢逸男(上水道計画担当)
<u>議事概要</u>	
<p>1. 調査団より、予備調査の概要説明</p> <p>2. DANIDA の援助動向ヒアリング</p> <p>DANIDA 事務所より、援助方針や動向について、以下の説明があった。</p> <p>① DANIDA としては、2008 年以後 Grant 援助は段階的に廃止の方向となる</p> <p>② 今後は無利子の混合融資の方向が主体と成る。ベヘイラでの Nubariya 浄水場拡張計画は DANIDA の一番大きなプロジェクトであり、混合融資で行われる予定である。NOPWASD がプロジェクト推進に努力しており、いいカウンターパートとの評価を受けている。</p> <p>③ 私企業や公共体も含めた商業ベースプロジェクトも進めるようにしている。</p> <p>④ また、今後の援助動向としては、気候変動や平等な性の分野の協力が大きくなる。</p>	

<p>⑤環境やエネルギーの分野では、OECDと協力し風車設置プロジェクトを実施した。</p> <p>3. 援助の重複等について</p> <p>ベヘイラ県において、前述のNubariya浄水場拡張計画プロジェクトを行っているが、別のMarkazで行われており重複してはいない。</p>
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日時	2008年6月23日(月) 14:00～15:00
場所	Egyptian Environmental Affairs Agency (EEAA) / エジプト環境庁
目的	環境情報の入手
出席者	Mr. Ali Abu-Sedira (Dr. Eng.), Secretary General, Head of the sector for Branches Affairs 調査団: 土井弘行
<p><b>議事概要</b></p> <p>1. エジプト国における環境基本情報の整備</p> <ul style="list-style-type: none"> <li>・ 現在、環境庁は環境基本情報の整備に力を入れている。</li> <li>・ 整備にあたっては DANIDA の支援を受けた。</li> <li>・ 基本情報は、各県ごとに分かれアラビア語で書かれたものである。</li> <li>・ 順次英語版も整備していく予定である。</li> </ul> <p>2. 提供いただいた資料</p> <ul style="list-style-type: none"> <li>・ エジプト国各県の環境情報(アラビア語)、収集資料 E-7。</li> </ul>	

日時	2008年6月23日(月) 11:30～12:00
場所	カイロ GTZ 事務所
目的	ドナーの援助動向調査他
出席者	Dr. Hans-Werner Theisen; Program Director 調査団: 野沢逸男(上水道計画担当)
<p><b>議事概要</b></p> <p>1. 調査団より、予備調査の概要説明</p> <p>2. GTZ の援助動向他ヒアリング</p> <p>(1) 援助方針や動向</p> <p>Dr. Theisen より以下の説明があった。</p> <p>①GTZ は技術援助協力機関であり、専門的技術や知見の移転協力を行っている。施設建設は KFW の業務であり、ローン、供与どちらのプロジェクトにも対応する。</p> <p>②GTZ は 30 年にわたり、エジプトに技術援助を行っている。援助分野は上下水道分野における上下水道管理プログラムの他、都市部における住民参加型開発、持続的な経済開発、中小企業育成強化、灌漑農業分野の水資源管理、水資源灌漑賞へのアドバイザーサービス等諸種のプログラムを行っている。</p> <p>③JICA の本案件と関連のある上下水道管理プログラムについては、おおよそ以下の内容である：</p> <ul style="list-style-type: none"> <li>－上下水道会社のホールディングカンパニーへの助言</li> <li>－幾つか県の上下水道会社のマネージメントサービス改善を支援</li> <li>－上下水道分野の戦略的な開発の支援、上下水道会社のマネージメント改善支援、コミュニティー参加型下水道管理の拡張</li> </ul> <p>④同プログラムの実体的な成果を得るために、先ず、2007 年に設立されたケーナ(Qena) 県の上下水道会社を選んで、昨年 8 月プログラムを開始した。その内容は、以下の通り：</p> <ul style="list-style-type: none"> <li>－親会社ホールディングカンパニーへの助言</li> <li>－ケーナ上下水道会社のマネージメント及び操業についてのキャパシティービルディング</li> </ul>	

ー村落コミュニティに対する適切な衛生概念の開発と増進  
 ー上下水道分野の開発戦略について、住宅公共事業省 (MoHUUD) への助言  
 ⑤また、上記プログラムの中のホールディングカンパニーへの助言の中では、以下の内容が含まれる。

- ー訓練活動のためのマネージメント環境の開発 (訓練マネージャーの育成とマネージメントスキルの増強、訓練コース、下水処理場についての OJT)
- ーラボラトリーマネージメントの改善
- ー投資計画能力の増強
- ーコーポレートデベロップメント計画におけるプロセスの手ほどき

⑥予算は7百万 EUR である。ケーナ県上下水道会社の他に、幾つかのパイロット施設となってもらうところを探しており、アレキサンドリアやベヘイラ県にも求めている。

上下水道各会社で、マスタープラン作成が行われつつあるが、内容はどのようなものかとの質問に対して、以下のようなコメントがあった。

①マスタープランユニットという M/P 作成組織がホールディングカンパニー内と各上下水道会社に設置されている。

②上下水道施設の計画と建設は NOPWASD が行うが、このマスタープラン策定は2年前 (2006年) にホールディングカンパニーが決定し、現在 EU の資金 4 千万 EUR を使って進められている。M/P は3つのフェーズから成っており、フェーズ1; 現況認識・評価、フェーズ2 当面必要なプロジェクト、フェーズ3: 将来計画で構成されるはずである。

日時	2008年6月23日(月)13:00~13:40
場所	Netherlands 事務所
目的	ドナーの援助動向調査他
出席者	Mr. Tareka A. Morad; Deputy Head, Economic & Development Cooperation 野沢逸男(上水道計画担当)

**議事概要**

1. 調査団より、予備調査の概要説明
2. オランダの援助動向他ヒアリング
  - (1) 援助方針や動向
 

私達のベヘイラ県での調査中、オランダの援助施設が目についたがとのコメント及び援助方針や動向の質問に対して、Dr. A. Morad より以下の説明があった。

①オランダは、ベヘイラ県に対してコンパクトユニット浄水施設を混合融資で援助したが、20~30年前のことである。

②また、エジプトでは地下水のマンガン、鉄濃度が高くなっており、ベヘイラ県も例外ではない。そのため、BURMAN システムというマンガン・鉄除去システムを5~6年前に無償供与した。③マンガン、鉄の井戸内部での沈殿で目詰まりが発生したとの情報も入っているが、除去効果が良いとのことで、他の県への拡大も検討している。

④アムステルダム上下水道会社から人を派遣して、ベヘイラの水道会社 (BWADC) に水道訓練プログラムを実施しているが、今では下水道の訓練プログラムにまで発展している。このプログラムはキャパシティビルディングとアイデア交換が主である。また、このプログラムの中で、浄水場の生産能力改善も行っている。

⑤上記の訓練プログラムの他、ベヘイラ県全体に対して統合的水資源管理の技術支援も行っている。対象のひとつとして、マフムーディア運河の灌漑用水の問題がある。アレキサンドリア市の水道は、この運河が唯一の取水原であるが、ベヘイラ県の灌漑用水の取水と排水の運河への流出等の問題をテーマの一つにしている。

⑥上下水道分野に対して、オランダは技術援助とともに施設建設の支援も今後とも行っていくが、ベヘイラ県に対する援助は前述の上下水道技術援助のみである。ベヘイラ県への BURMAN システム設置は終了している。

- ⑦今後、ファユム浄水場に増設する計画も持っている。
- ⑧今後ではどちらかといえば、水源管理と衛生排水が主分野になっていく。2008年～2011年の4年間で水源管理分野は4.8百万EURの予算を計上している。衛生排水分野は6百万EURだが、3百万EUR、2百万EUR、1百万EURと年度ごとに予算は少なくなっていき、2011年にはゼロとなる予定である。衛生分野は村落部の衛生問題が主である。
- (2)その他
- ①シャルキーヤ浄水場を参考例にしたり、逆に私達、オランダの建設したファユム浄水場の情報をシャルキーヤに提供したりして、情報の交換共有を図り、より良い効果を発揮するような協力を日本側とした経緯もある。
- ②世銀はすべて下水道分野への融資である。1億2千万USDを予定し、ベヘイラ県を含め3県に下水道施設建設を計画している。
- ③EU, EIB, KfW, GTZは今後とも上水道分野への技術援助、施設建設を計画している。

日時	2008年6月23日(月)15:00～15:40
場所	USAID 事務所
目的	ドナーの援助動向調査他
出席者	Mr. Jeremey S. Gustafson; チームリーダー: インフラストラクチャー、 Mr. Moenes Edward Youannis; チームリーダー: インフラストラクチャー、Mr. Gharieb El Sawi; プロジェクトマネージャー; 生産セクター開発 野沢逸男(上水道計画担当)
議事概要	<p>1. 調査団より、予備調査の概要説明</p> <p>2. USAID の援助動向他ヒアリング</p> <p>(1) 援助方針や動向</p> <p>USAID 事務所より、援助方針や動向その他について、以下の説明があった。</p> <p>①USAID としては、技術援助が大半であり、施設建設への投資は少ない。</p> <p>②現在ホールディングカンパニーの制度、組織、財政等に対してキャパシティービルディング援助を行っている。今後の援助も技術支援が主であり、当面75百万USDの予算を計上している。</p> <p>③また、水道料金の調整を行う組織(Regulatory Authority)への同様な技術援助を行っている。現在同上組織は実際的には水道料金調整権限を持たされていない。政府がその権限を持っており、同組織は政府にリコメンデーションするだけのものとなっている。</p> <p>(2) 水道会社のホールディングカンパニー(HCWW)とNOPWASD の関係</p> <p>当方から、今までの調査の状況から判断すると、HCWW とNOPWASD との間には距離があるように感じたが、USAID としてはどのような見方をしているのかとの質問に対して、以下のようなコメントがあった。</p> <p>①NOPWASD は1000以上に及ぶ数のプロジェクトを抱えており、各プロジェクトに問題があっても対処し切れていない。</p> <p>②したがって、建設が終了し水道会社に引き渡す時点が来ても、水道会社が受け取らないという事例がしばしば見られるということである。これは品質もさることながら、NOPWASD と水道会社との間でうまく調整がとれていないということによっている。</p> <p>③建設当初から、水道会社を引き込んでいくことが重要であり、NOPWASD にそのような体制を取らせることが必要である。</p> <p>④対応するプロジェクトが多数にわたるため、監理が不十分なのを実態である。したがって本案件のように、クライアントがNOPWASD、コントラクターが日本業者、クライアントのコンサルタントが日本のコンサルタント会社という体制のもとで建設工事が実施される場合には、円滑な調整業務を行なってもらうように、日本側で十分NOPWASD をサポートすることが必要と思う。</p> <p>(3) その他</p>

浄水場規模や配水管網等について次のようなコメントがあった。

- ①水需要に対して浄水生産能力が不足しているということは事実だが、配水管網の改善により、漏水量を少なくする取り組みも必要である。
- ②また、家屋の給水配管にポンプを取り付け吸引し、水を強制的に吸い出すことまでしており、水圧低下により末端家屋水が行き渡らないという問題がある。

日時	2008年6月24日(火) 17:30~18:30
場所	NGO[Nahdet El-Hahrousa] office
目的	環境情報の入手
出席者	Ms. Amira Hossam, NGO member Mr. Ahmed EL-Dorghamy (Eng.), Technical Assistant REMIP
<b>議事概要</b> 1. NGO[Nahdet El-Hahrousa]の概要 ・ Nahdet El-Hahrousa の意味は、Development,Rise の意味であるとのこと。 ・ 環境啓発活動を実施。 ・ サマースクール等でワークショップを開催。 ・ UNDP のレポート(Egypt Human Development Report, 2007)に紹介されている。 ・ エジプト国の環境啓発には GTZ が豊富な支援実績を持つとのこと。  2. 連絡先 ・ 活動は以下のウェブサイトを紹介 <a href="http://www.nahdetmasr.org/namaa">www.nahdetmasr.org/namaa</a> ・ 問合せ先は、 <a href="mailto:namaa.info@nahdetmasr.org">namaa.info@nahdetmasr.org</a> ・ Ms. Amira Hossam への問い合わせは、 <a href="mailto:amira_feps@yahoo.com">amira_feps@yahoo.com</a>	



添付資料 6

質問票及び回答



**QUESTIONNAIRE**  
**FOR**  
**THE PROJECT FOR WATER SUPPLY DEVELOPMENT**  
**IN**  
**ITAY EL BARUD MARKAZ, BEHIRA GOVERNORATE**  
**THE ARAB REPUBLIC OF EGYPT**

MAY 2008

Preliminary Study Team

Japan International Cooperation Agency (JICA)

## QUESTIONNAIRE

The JICA Preliminary Study Team would like to submit the Questionnaire composed of the following overall and specific information on the requested project, in order to clarify the contents of the project and to appraise the scope of the cooperation.

Please answer in detail as much as possible in writing to the following questions and please kindly provide us with data and information requested herein for the sake of smooth implementation of the Preliminary study:

1. Distribution of Questionnaire to Authorities concerned

It is supposed that all questions shall be answered through National Organization for Potable Water and Sanitary Drainage (NOPWSD). However if needed it is sincerely requested that relevant Authorities shall be in charge of answering the questionnaire.

2. Source of Data and Information

Names and dates of data and information sources shall definitely be written at the cover or front page of data and information.

3. Statistical Book to be prepared beforehand

No answer shall be needed for the general matters if they are described in the publicized Statistical Book.

4. Form of Data and Information

It is preferable to submit data and information in digital form.

The scope of cooperation shall be discussed based on the Inception Report and this Questionnaire. Therefore the smoothness of JICA Preliminary study will entail your cooperation in answering the Questionnaire.

### A. OVERALL ITEMS

#### 1. Confirmation of the Contents of the Requested Project (The Project for Water Supply Development in Itay El Barud Markaz, Behira Governorate)

1-1 Background of the project

(1) Please describe the reason why this project was requested in high priority from your country in more detail based on the comparison among the other planned similar projects.

**Answer: Refer to the Sixth Socio-Economic Development Five-Year Plan (2007/08 – 2011/12) And First Year (2007/08)**

(2) The Japanese Government cooperation requires local cost. Any such local cost as that necessary for land acquisition, building permit, water right, resettlement of local people and other necessary works for the Project is borne by the Egyptian side.

**Answer: NOPWASD agreed.**

(3) In regard to the item (3.3), “Current Situation of the proposed sector”, in your

Application Form, please explain roles and responsibilities between Housing and Utilities Directorate of Beheira Governorate and Beheira Potable Water and Sanitary Drainage. Company.

**Answer: Utilities Directorate of Beheira Governorate receive the claims on water supply from the inhabitant and transmit them to the BWADEC.**

- (4) In regard to the description “Some of the Problem Areas” in Item 3.3 mentioned above, please provide data and information of the affected areas for accounting unsuitability of groundwater for drinking use

**Answer: Whole of Itay El Baroud**

- (5) In regard to supply and control of well water, please explain in more detail in terms of budget, quantities, schedule including, financial plan and provide the related data and information

**Answer: Refer to the Supplied data.**

- (6) Please explain which of the existing well you plan to maintain, how much water volume from them you plan to supply and control by installing water gauge meter and how long you sustain well water system

**No specific answer.**

- (7) Please provide detail breakdown of the present water supply condition in Itay El Barud Markaz classifying the subscribers and showing userwise consumed quantities with daily consumption.(Refer to the table shown in item (3.3) mentioned before.)

**Answer: Refer to the Supplied data.**

## 1-2 Outline of the Project

- (1) General Layout Drawing of the Project:

Please provide the General layout drawings of the Project including transmission and distribution pipeline and service area with showing the requested Project area.

**Answer: Refer to the drawing in the Request.**

- (2) Document on the Requested Project

The aforementioned item (3.3) of Background of the request shows NOPWASD (National Organization for Potable Water and Sanitary Drainage) is responsible for researches, planning, design and construction of new construction of water project for the governorate. Please provide the document on design criteria, budget, drawings, quantities, calculation, and method statement for construction prepared for the requested project.

**Answer: Design Criteria is shown.**

- (3) Intake site

Please provide detail data and information regarding water flow rate and velocity, water quality, bathymetric survey, canal bed sedimentation, anticipated scouring depth or sedimentation thickness, subsurface soil, canal bank structure in the vicinity of the intake point.

**Answer: Water flow rate ,velocity, water quality and canal section drawing are**

**provided.**

(4) Water Treatment Plant Site

Please provide the topographic survey drawing including boundary line, boundary stakes and control point with the calculation sheets of the area. Information of subsurface soil and underground buried items is also requested.

**Answer: The topographic survey drawing is provided.**

(5) Capacity of Water Purification Plant

It is not clear how much amount of UFW is estimated in the plan of the expected capacity, 52,000 m<sup>3</sup>/day of water purifier.

Please explain the plan of requested Project in detail to clearly show target year, UFW, unit consumption, industrial usage volume, service population, etc.

**Answer: Refer to the Design Criteria.:**

(6) Construction of Transmission and Distribution facilities:

The construction of transmission and distribution pipelines connecting with the Project is excluded in your request. The construction is necessary and important for distribution of the purified water to the expected service population.

Please explain in detail the content of the above pipeline construction and provide the document on design criteria, budget, drawings, quantities, calculation, and construction schedule prepared for those pipeline construction performed by the Egyptian side.

**No Answer.**

(7) Canal and Railway Crossing with Transportation Pipeline

It is anticipated that transportation pipeline construction at canal and railway crossing is critical for the accomplishment of the Project purpose. Detail plan including method statement for construction and supporting information for this construction is requested. Such detail data and information as water flow rate and velocity, water quality, bathymetric survey, canal bed sedimentation, anticipated scouring depth or sedimentation thickness, subsurface soil, canal bank structure in the vicinity of this crossing site is also requested.

In addition to the above, information of railway foundation & structure and subsurface soil, the existing under and above ground structure with any constraint therewith is requested.

Furthermore, development plan if any, in the vicinity of this crossing site is requested.

**Answer: Refer to the information of existing nearby construction for the sleeve pipe for sewerage pipe and the Answer to the item (3) Intake site.**

(8) Main Distribution Lines and Water Network

Please provide the plan of main distribution lines and water network which NOPWSD has already prepared in order to supply enough clear water up to the target year of the Project

**No Answer..**

- (9) Item (5.2), “Rough request amount”, in your Application Form for Japan’s Grant Aid General and fisheries
- a. What is the “Circle one”?
  - b. Please explain the difference between the rough requested amount of 10 million USD(roughly 10 billion Japanese Yen) and the Project cost of 38.8 billion Japanese Yen shown in Annex 6.

(10) Operation and Maintenance of the requested Facility

Item (11.3), “How to operate and maintain the facility/equipment, including staff and technical level of the responsible organization”, describes how to operate and maintain the facilities under the requested project but the content seems not clear.

- a. Please describe the staff allocation plan for the operation and maintenance of the facilities, if any, and in more detail that how many and what kind of staffs are expected from Behira Potable Water and Sanitary Drainage Company(BPWSDC) and Housing and Utilities Directorate(HUD) each for that of the facilities.
- b. Please describe the necessary budget you think for the operation and maintenance of the facilities with plan and schedule of water tariff income increase and of the central government subsidy.

**No Answer.**

(11) Component of the Requested Project

Please provide detail breakdown of the component of the requested project shown in table 2-1 “Component of the Requested Project” in your Application Form for Japan’s Grant Aid General and fisheries.

**No Answer.**

1-3 Counterpart organization

Please explain the role and responsibility of Ministry of Housing, Utilities and Urban Communities(MHUUC), National Organization for Potable Water and Sanitary Drainage(NOPWSD), Housing and Utilities Directorate in Behira Governorate(HUDBG), Behira Potable Water and Sanitary Drainage Company(BWADC) in water supply works

**Answer: Organization of NOPWSD and BWADC is Provided.**

1-4 Water tariff

- (1) Which body has an authority to decide water tariff increase?
- (2) Please explain the existing condition of water tariff system and water tariff collection system. Is it not difficult to increase water tariff for sustainable operation and maintenance of the Project, when necessary?

**Answer: Water tariff structure is Provided.**

**2. Questions on Water Resources**

2-1 Surface water

- (1) Please describe names, addresses, functions, organization systems with charts, and contact persons of official agencies or organizations responsible for canals and rivers.

**Answer: General Directorate for Irrigation IMP Projects**

- (2) Please provide the data and information of the quantity and quality of surface water at the planned intake point.

**Answer: Refer to the Answer to the item (3) Intake site.**

- (3) Please describe regulations of river maintenance flow and provide the data of river maintenance flow for the expected surface water source.

**No Answer**

- (4) Please describe regulations of water right and provide the data of river flow based on water right for the expected surface water source.

**Answer: Refer to the Answer to the item (3) Intake site.**

- (5) Please describe the development potential of other surface water sources, if any, for application to the Project

**Answer: No other surface water source.**

**2-2 Ground water**

- (1) Has the groundwater potential in the area been clarified? Are there any technical reports mentioning the safe yield?

**No answer**

- (2) Dose the groundwater depletion take place? If it dose, in which area is such phenomena prominent?

**No answer**

- (3) How many liters per second of groundwater dose one production well discharge in average?

**Answer: Refer to the provided data.**

- (4) Please show the typical casing program of the tube well and unit cost of the well construction.

**Answer: Refer to the provided data.**

- (5) Please provide the data and information showing how groundwater is unsuitable for drinking use.

**Answer: Refer to the provided data.**

- (6) Is there any monitoring system for groundwater?

**Answer: Refer to the provided data.**

**3. Questions on Social and Environmental Issues**

**3-1 Land acquisition of the project sites**

- (1) Is it not necessary to expropriate or lease land on the project site for the proposed purification facilities? If necessary, please provide the followings;
- The land expropriation area
  - The rough estimate of expenses
  - The necessary term

**Answer: The area of 4.45ha is already provided for the proposed WTP.**

- (2) Is it not necessary to expropriate or lease land on the project site for the proposed water transmission main? If necessary, please provide the followings;



- a. The land expropriation area
- b. The rough estimate of expenses
- c. The necessary term

**No Answer.**

- (3) Please explain the procedure of land expropriation or lease.

**No Answer.**

### 3-2 Canals concerning the water intake plan

- (1) Please describe impacts to the downstream area in kinds and depth when the proposed water abstraction is practiced. (ex. irrigation in dry season)

**Answer: No impact is occurred.**

- (2) What procedure should be taken to get water right for taking water from the planned canal?

**Answer: The application for the water abstraction from the canal is submitted to the Ministry of Water Resources and Irrigation.**

- (3) Please explain any conflicts/adjustments cases on water right in water sources development in and around the Project site

**Answer: No conflict/adjustment is occurred.**

## B. SPECIFIC DATA AND INFORMATION(1/6)

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
<b>1.</b>	<b>Development Plan</b>			
<b>1.1</b>	<b>National and regional development plan</b>			
	1) National development plan for water supply sector	Y	Ministry of Economic Development	The sixth Socio-economic Five-Year Plan (2007/08 – 2011/12)
	2) Regional development plan for Itay El Barud Markaz or Behira Governorate	N		
	3) Land use plan of Itay El Barud Markaz , Behira Governorate and that in the vicinity of the Project site	N		
<b>1.2</b>	<b>Water supply development plan</b>			
	1) Final report of Fifth National 5 year Socio-Economic Development Plan	Y	Ministry of Economic Development	The Fifth Socio-economic Five-Year Plan (2002/03 – 2006/07)
	2) Any other Water Supply Development plan in relation to the Project	Y	Holding Company for Water and Wastewater(HCWW)	Master Plan for Water and Wastewater in Beheira Governorate
	3) other related plan	Y	HCWW	Emergency Water Supply Plan
<b>2.</b>	<b>Counterpart Agency</b>			
<b>2.1</b>	<b>Ministry of Housing, Utilities and Urban Communities (MHUUC)</b>	N		
	1) Organization chart			
	2) Number of personnel			
	3) Roles and Responsibility for Potable Water and Sanitary Drainage			
<b>2.2</b>	<b>National Organization for Potable Water and Sanitary Drainage(NOPWSD)</b>			
	1) Organization	Y	NOPWASD	NOPWASD Organization Chart
	2) Number of personnel	Y	NOPWASD	Personnel of NOPWASD
	3) Roles and Responsibility for Potable Water and Sanitary Drainage	N		
	4) Income and expenditures in water supply works for past three years	N		
	5) Project performance record with brief description, allocated staff and schedule of the project for past three years.	Y	Beheira NOPWASD	Beheira Water Supply Project Final report; Vol 1, Main Report

	6) Brief description, allocated staff and schedule of the ongoing projects, if any.	Y	Beheira NOPWASD	On going Project List
<b>2.3</b>	<b>Behira Governorate (BG)</b> 1) Organization 2) Number of personnel 3) Roles and Responsibility for Potable Water and Sanitary Drainage 4) Income and expenditures in water supply works in the past three years	N		

### SPECIFIC DATA AND INFORMATION (2/6)

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
<b>2.4</b>	<b>Holding Company for Potable Water and Sanitary Drainage</b> 1) Organization chart 2) Number of personnel 3) Roles and Responsibility for Potable Water and Sanitary Drainage 4) Income and expenditures in water supply works in the past three years	N		
<b>2.5</b>	<b>Behira Potable Water and Sanitary Drainage Company(BWADC)</b> 1) Organization chart 2) Number of personnel 3) Roles and Responsibility for Potable Water and Sanitary Drainage 4) Income and expenditures in water supply works in the past three years	Y Y Y Y	BWADC	Organization Chart BWADC Pamphlet Ditto  Profit Loss statement
<b>3.</b>	<b>Law and regulation regarding water supply</b> 1) Water laws 2) Laws and regulations for drinking water quality 3) Laws and regulations regarding water right 4) Laws and regulations for industrial wastewater effluent	N Y N N	Ministry of Health	Decree Number 458/2007 Regarding the Maximum Measurements for Standards and Specifications for Potable Water
<b>4.</b>	<b>Regulation or Design Code regarding water supply works in the vicinity of river, canal and railways</b> 1) Constraint under or over river, canal and railways 2) Permission or approval procedure for this kind of works 3) Related authorities	N N N		

**SPECIFIC DATA AND INFORMATION (3/6)**

No.	Item	Availa-bility (Y/N)	Agency of Information Source	Name of Materials
<b>5.</b>	<b>Data and Information regarding natural conditions of the project area</b>			
<b>5.1</b>	<b>Maps and other information</b>			
	(1) Topographic maps ;scale 1/100,000, 1/50,000 and 1/25,000 or others, if any	N		
	(2) Geological maps; scale 1/100,000, 1/50,000 and 1/25,000	Y	Egyptian General Survey Authority	Geological Map: Itay Al-Barud (1/50,000)
	(3) Other geological data, if any	N		
	(4) Hydro-geological maps 1/100,000, 1/50,000 and 1/25,000 or others if any	N		
	(5) Other hydrological and hydrogeological data, if any	Y	Water Research Center, Ministry of Water Resource and Irrigation	Hydrogeological Map of Egypt Nile Delta (1:500,000)
	(6) Aerial photograph, 1/500,000, 1/200,000, 1/100,000, 1/50,000 or 1/25,000, if any			
	(7) Satellite image, 1/500,000, 1/100,000,			
	(8) Land use maps and vegetation maps, if any			
	(9) Earthquake data (acceleration), if any			
<b>5.2</b>	<b>Meteorological and hydrological data</b>			
	(1) Meteorological data near the project area for the last 10 years	N	NOPWASD	Extension of Nubariya Water Treatment Project Feasibility Study report: Jan.2006
	1) Air temperature – monthly mean	Y	Ditto	Ditto
	2) Humidity - monthly mean	Y	Ditto	Ditto
	3) Wind direction & velocity- monthly mean	N		
	5) Precipitation - daily, monthly & annual	Y	Ditto	Ditto
	6) Measurement stations and maps	N		
	7) Climate maps			
	(2) Hydrological data of the water source canals as long as possible		BEHEIRA Office of Ministry of Water Resources and Irrigation	
	1) Discharge - daily, monthly & annual	Y		Discharge data
	2) Water level - daily &monthly	Y		Water level data
	3) Water quality – as many items as possible	Y	BWADC	Water quality test data
	4)Suspended solid – sedimentation	Y	Ditto	Ditto
	5) Measurement stations and maps	N		
	6) Maps of canal network	Y	Ditto	Ditto
	7)Hydrological maps, if any	Y	Ditto	Ditto
<b>6.</b>	<b>Data and information regarding ground water and tube wells</b>			
	1) Well inventory sheets	Y	BWADC	GIS data
	2) Location map of well	Y	Ditto	GIS data
	3) Hydrogeological maps and profiles	N		

	4) Technical reports of groundwater	N		
	5) Monitoring records of groundwater level	N		
	6) Monitoring records of groundwater quality	Y	BWADC	Quality test data
	7) Records of groundwater abstraction	Y	Ditto	Performance record
	8) Results of geophysical investigation	N		
<b>7.</b>	<b>Data and information regarding water supply</b>			
<b>7.1</b>	<b>Outline of existing water supply system</b>			
	(1) Water production capacity	Y	BWADC	Performance record
	(2) Covered service area and covered household	Y	Ditto	Covered household
	(3) Served population and category of consumer (type of water use)	Y	Ditto	Provided information of them
	(4) Operation and maintenance system	Y	Ditto	Provided information
	(5) Present problem with related to the above operation and maintenance system	Y	Ditto	Provided information of it
	(6) History of the system (construction, maintenance, improvement & rehabilitation etc.)	Y	Ditto	Information of Beheira Water Treatment Plant
	(7) Performance record for past three years	Y	Ditto	Only one year
	(8) Administrative area map or service area map	Y	Ditto	GIS data

**SPECIFIC DATA AND INFORMATION (4/6)**

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
7.2	<p><b>Detail data and information of water supply facilities</b></p> <p>(1) Inventory sheets of water supply facilities such as intake facility, transmission pipeline, purification plant, distribution facilities and etc.</p> <p>(2) Brief specification, general layout, typical sectional drawings, main construction volume(concrete work, earth work, erection weight, building area, etc.), construction cost, construction period and year of construction</p> <p>(3) Control, instrumentation, and record &amp; data communication system</p> <p>(4) History of improvement or rehabilitation</p> <p>(5) Maintenance record</p> <p>(6) Organization of Operation and maintenance including personnel for administration, technical person for operation and maintenance</p> <p>(7) Electric power supply and consumption</p> <p>(8) Fuel supply and consumption</p> <p>(9) Present condition and problem with related to the function, operation and personnel, etc.(supply quantity, quality of water, water pressure, electric power shortage, ability of personnel and management, etc.)</p> <p>(10) Supply and consumption of chemical agent especially for purification facility and distribution facility</p> <p>(11) Rate/amount of leakage and illegal connections especially for distribution pipeline</p> <p>(12) Design code and standard: for civil, electrical, mechanical work, pipe installation etc.</p> <p>(13) Water right and other rights in connection with canal, river, well, spring water and water supply facility.</p> <p>(14) National standard of water quality: Both raw water and treated water</p>	<p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>N</p> <p>Y</p>	<p>BWADC</p> <p>BWADC</p> <p>BWADC</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Ditto</p> <p>Egyptian Code for the Design and Implementation of Potable and Sewage Water Purification and Lifting Plants / Section Three: Potable Water Treatment Plants</p> <p>Refer to Item 3 2)</p>	<p>Not detail but outline of them</p> <p>Information of them</p> <p>Part of information (Billing system)</p> <p>Information of them</p> <p>Information of them</p> <p>Information of them</p> <p>Performance record</p> <p>Ditto</p> <p>Information of them</p> <p>Performance record</p> <p>Part of leakage information</p> <p>Ministry of Housing, Utilities and Urban Communities</p> <p>Refer to Item 3 2)</p>

**SPECIFIC DATA AND INFORMATION (5/6)**

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
<b>7.3</b>	<b>Water tariff and income per household</b> 1) Water tariff per household per month (2005 to present) 2) Collection conditions (collection ratio) of water tariff (2005 to present) 3) Annual average income per household (Upper class, Middle class and Lower class)	N N N		
<b>8.</b>	<b>Data and information regarding social and environmental issues</b> (1) Legislation related to environmental policies and standards (a) Responsible ministry or agency and its organization chart (b) Laws and guidelines (2) Laws/guidelines related to environmental impact assessment (EIA) (a) Type/size of activities for EIA (b) Procedure (3) Present situation of the area regarding environmental issues (a) Socio-economic environment - History of epidemic disease including water-borne disease (for the last five years) (b) Natural environment - Location of particular area officially protected such as national and natural parks - Location of environmentally vulnerable area - Species of precious animals and plants - Distribution of important historical spots, landscape and scenery	Y Y N	Egyptian Environmental Affairs Agency (EEAA)  Ditto above	Guidelines for Egyptian Environmental Impact Assessment  Ditto above

**SPECIFIC DATA AND INFORMATION (6/6)**

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
<b>9.</b>	<b>Others</b>			
<b>9.1</b>	<b>Statistic data</b> 1) Census of the country 2) Census of the province 3) Social and economic index	Y	Central Agency for Public Mobilization & Statistics	2007 Statistical Year Book
<b>9.2</b>	<b>Capable Consultants list</b> 1) Water supply engineering Topographic survey 2) Geological investigation for ground water development 3) Environmental study 4) Social survey	N		
<b>9.3</b>	<b>Construction materials</b> 1) List of domestic productions of valves and pipe materials 2) List of available consumables in the market 3) Any custom restriction on importation of the possible construction materials	Y	Pipe factory	Pipe factory brochure
		N		
		N		
<b>9.4</b>	<b>Unit Price for construction</b> 1) Unit price regarding construction material for waterworks 2) Unit price regarding construction equipment, vehicles etc. for waterworks 3) Unit price of design and construction engineers for waterworks 4) Unit price of labours for waterworks	Y	Japanese Contractor (Dai Nippon Construction)	Cost data



添付資料 7

収集資料リスト



収集資料リスト

調査名 エジプト国ベヘイラ県タイ・エルバールード郡水供給改善計画 予備調査

番号	名称	形態	オリジナル・コピー	発行機関	発行年
1	Socio-Economic Development Five0Year Plan (2007/08-20011/12) and First Year (2007/08), March 2007	図書	コピー	Ministry of Economic Development	2007
2	Egyptian Code for the Design and Implementation of Potable and Sewage Water Purification and Lifting Plants / Section Three: Potable Water Treatment Plants	図書	Word (英訳版)	Ministry of Housing, Utilities and Urban Communities	2005
3	Decree Number 458/ 2007 Regarding the Maximum Measurements for Standards and Specifications for Potable Water	図書	コピー (英訳版)	Ministry of Health	2007
4	Set of Laws and Decrees on: Protection of the River Nile against Pollution & Drainage of Liquid Wastes	図書	オリジナル	The Middle East Library for Economic Services	2008
5	Personnel of NOPWASD	文書	コピー	NOPWASD	2008
6	Water Abstraction List	文書	コピー	NOPWASD	2008
7	Organization of NOPWASD Beheira	文書	コピー	NOPWASD	2008
8	On-going Project List of NOPWASD Beheira	文書	コピー	NOPWASD	2008
9	BEHEIRA WATER SYPLY PROJECT FINAL REPORT VOLUME 1: MAIN REPORT	図書	コピー	NOPWASD	2003
10	Extension of Nubariya Water Treatment Plant: From 400 l/s to 1,400 l/s Feasibility Study、 January 2006	図書	コピー, PDF	National Organization for Potable Water and Sanitary Drainage	2006
11	Feasibility Study for Upgrading of the Beheira Water Supply in Egypt Draft Report (Version 2)	図書	コピー, PDF	Royal Haskoning Nederland B.V. Water	2006
12	Appraisal of the Extension of Nubariya Water Treatment Plant, Egypt	図書	コピー, PDF	Danish Ministry of Foreign Affairs	2007

番号	名称	形態	オリジナル・コピー	発行機関	発行年
	Final Report			(DANIDA) / COWI	
13	Extension of Nubariya Water Treatment Plant: From 400 l/s to 1,400 l/s Final Report of Conceptual Design of the Extension Plant	図書	コピー, PDF	National Organization for Potable Water and Sanitary Drainage	2007
14	Summary of Key Elements of the National Rural Sanitation Strategy	図書	コピー, PDF	Holding Company for Water and Wastewater	2007
15	Organization of Project Implementation Unit for Extension of Nubariya WTP	文書	コピー	NOPWASD	2007
16	下水配管用鞘間敷設推進工事資料	文書	コピー	NOPWASD	2007
17	同上推進掘削機械仕様	文書	コピー	NOPWASD	2007
18	バヘイラ上下水道会社組織図	文書	コピー	BWADC	2008
19	Beheira Governorate (主要浄水場と送配水本管配置図および計画図)	図面	コピー	Beheira Water and Drainage Company	?
20	浄水場予定地形形測量図	図面	コピー	Beheira Water and Drainage Company	2008
21	イタイエルバールード人口資料	文書	コピー	Beheira Water and Drainage Company	2008
22	水生産量と消費量、接続数資料	文書	コピー	Beheira Water and Drainage Company	2008
23	BWADC財務関係資料	文書	コピー	Beheira Water and Drainage Company	2008
24	Progress on Groundwater Management Issues: Mission to Damanhour, Beheira, Egypt, Dec 1-9, 2003	図書	コピー, PDF	Amsterdam Water Supply	2007
25	Innovative Method for Iron and Manganese Removal from Groundwater – the	図書	Word	Amsterdam Water supply / Beheira	2002

番号	名称	形態	オリジナル・コピー (英訳版)	発行機関	発行年
	Beheira Eater Company's Experience			Water and Drainage Company	
26	Location Map of Existing Water Supply Facilities in Etay el Barud Markaz	図面	SHP (GIS)	Beheira Water and Drainage Company	2008
27	Location Map of Existing Water Supply Facilities in Beheira Governorate	図面	SHP (GIS) JPEG	Beheira Water and Drainage Company	2008
28	Site Plan of the new Water Treatment Plant in Etay el Barud	図面	JPEG	Beheira Water and Drainage Company	2008
29	Layout Plan of Compact Unit under Urgent Plan in Etay el Barud Markaz (1/50)	図面	コピー, PDF	Beheira Water and Drainage Company	2008
30	Location Map of Existing Water Stations in Beheira Governorate Master Plan for Water and Wastewater Systems in the Governorate of Beheira	図面	コピー, PDF	Holding Company for Water and Wastewater / Chemonics Egypt	2008
31	Pipeline Layout Plan in Etay el Barud (New Compact WTP & Existing Facilities) Master Plan for Water and Wastewater Systems in the Governorate of Beheira	図面	コピー, PDF	Holding Company for Water and Wastewater / Chemonics Egypt	2008
32	Geological Map: Itay Al-Barud (1/50,000)	図面	コピー	Egyptian General Survey Authority	1996
33	Sectional Drawings of Khndak el Sharkia Canal	図面	コピー	Ministry of Water Resource and Irrigation Beheira Office	?
34	Canal Drawing 1	図面	コピー	Ministry of Water Resource and Irrigation Beheira Office	?
35	Canal Drawing 1	図面	コピー	Ministry of Water Resource and Irrigation Beheira Office	?
36	Pipeline from Damanhur to Itay El Barud Location C Plan	図面	コピー	Beheira Water and Drainage Company	?

番号	名称	形態	オリジナル・コピー	発行機関	発行年
37	Pipeline from Damanhur to Itay El Barud Support Detail	図面	コピー	Beheira Water and Drainage Company	?
38	Pipeline from Damanhur to Itay El Barud Location C Section A-B-C	図面	コピー	Beheira Water and Drainage Company	?
39	Hydrogeological Map of Egypt Nile Delta (1:500,000)	図面	PDF	Water Research Center, Ministry of Water Resource and Irrigation	1992
40	Permission Procedure for Water Intake Structure	文書	コピー	Ministry of Water Resource and Irrigation Beheira Office	
41	Data on Existing Groundwater Stations in Itay El Barud – (1) Raw Water Quality, (2) Treated Water Quality, (3) Lithology of Existing wells	図書	コピー	Beheira Water and Drainage Company	2008
42	ISO 17025 Between Theory and Practice in Water Companies Laboratories	図書	オリジナル	Beheira Water and Drainage Company	2004
43	PowerPoint Presentations for the Symposium on BURMAN System held in Cairo, 18 September 2002	図書	PPT	Beheira Water and Drainage Company	2002
44	German-Egyptian Development Cooperation	パンフ レット	オリジナル	GTZ	2008
45	A Short History of Water Sector in Egypt prepared by the USAID funded Water and Wastewater Sector Policy Reform Project	文書	コピー	USAID	?
46	Master Plan for Water and Wastewater in Beheira Governorate	文書	コピー	Holding Company for Water and Wastewater / Chemonics Egypt	2007
47	List of Urgent Water Treatment Plant in Beheira Governorate	文書	コピー	Holding Company for Water and Wastewater / Chemonics Egypt	2007
48	Italian0Egyptian Capacity Building in the Integrated Water Supply nad Sanitation	パンフ	オリジナル	Holding Company for Water and	

番号	名称	形態	オリジナル・コピー	発行機関	発行年
		レット		Wastewater	
49	Beheira Water and Drainage Company	パンフ レット	オリジナル	Beheira Water and Drainage Company	2008
50	Sharkia Potble Water and Sanitation Co Hehia Branch Hehia New Station Performance Data	文書	コピー	Sharkia Potble Water and Sanitation Co	2008
51	Ebvironmental management of Groundwater Resources in Egypt 1994-1999 Project Achievements	文書	オリジナル	Research Institute for Ground Water/IWACO	?
52	Channel Maintenance Research Institute	パンフ レット	オリジナル	Channel Maintenance Research Institute	?
53	Egypt, An Economic Geography by Fouad N. Ibrahim and Barban Ibrahim, 2003	文書	コピー		2003
54	An Innovative Technology to Remove Iron and Manganese from Groundwater - Experience of El-Beheira Water Company	文書	コピー ※原本はアラビア語のため、JICA エジプト事務所にて英訳	Chemonics Egypt	?
55	欠番				
56	Introduction to BONDOK Consultants and Engineers	パンフ レット	オリジナル	BONDOK Consultants and Engineers	?
57	Misr ElHegaz for PVCu Pipes and Plastic Products	パンフ レット	オリジナル	Misr ElHegaz Company	?
58	El Nasr Casting Ductile Pipe Factory Pamphlet	パンフ レット	コピー	El Nasr Casting	?

番号	名称	形態	オリジナル・コピー	発行機関	発行年
E-1	浄水場建設予定地の図面(1:750)	図面	コピー	Beheira Water and Drainage Company	2008
E-2	MELES List of Laws, Decrees and Economic Services	図書	オリジナル	The Middle east Library For Economic services	2008
E-3	The Law and the Executive Regulations of the Law on Environment	図書	オリジナル (英訳版)	The Middle east Library For Economic services	2006
E-4	Environment Law (英訳版)	図書	コピー, Word	JICAより提供	
E-5	Guidelines for Egyptian Environmental Impact Assessment	図書	コピー	Egyptian Environmental Affairs Agency (EEAA)	
E-6	2007 Statistical Year Book	図書	オリジナル	Central Agency for Public Mobilization & Statistics	2007
E-7	エジプト国各県の環境情報 (アラビア語)	図書	コピー, CD-R	Egyptian Environmental Affairs Agency (EEAA)	2007
E-8	ベヘイラ県 Web site ( <a href="http://www.beheira.gov.eg">www.beheira.gov.eg</a> )からタイ・エルバールード郡の概要をダウンロードしたもの	図書	コピー	ベヘイラ県	2008
E-9	Egypt State of the Environment Report 2006	図書	コピー, PDF	Egyptian Environmental Affairs Agency (EEAA)	2006
E-10	Annual Guide for Environmental Data and Indicators, 2008	図書	コピー, PDF	Egyptian Environmental Affairs Agency (EEAA)	2008
E-11	Egypt Human Development Report 2008	図書	コピー, PDF	UNDP	2008
E-12	World Health Statistics 2008	図書	コピー, PDF	WHO	2008



番号	名称	形態	オリジナル・コピー	発行機関	発行年
E-13	Our cities, our health, our future 2008	図書	コピー,PDF	WHO	2008
E-14	欠番				
E-15	Tanta 地域のナイル川の水質	文書	コピー	Regional Environmental Management Improvement Project より提供	2008
E-16	ISO 17025 Between Theory and Practice in Water Companies Laboratories のプレゼンテーション	パワーポイント	コピー,パワーポイント	Beheira Water and Drainage Company	2008
E-17	Library Services, Bibliotheca Alexandrina	パンフレット	オリジナル	Bibliotheca Alexandrina	

